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Nurse's mental health during Covid-19 pandemic

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Abstract

Aim: The aim of the research was to ascertain the feelings of frontline nurses during the Covid-19 pandemic. *Design:* Qualitative research using a phenomenological approach. *Methods:* Qualitative research using a phenomenological approach was carried out with eight nurses working with Covid-19 patients in a hospital and in a seniors home in Kladno, in the Central Bohemia region of the Czech Republic. Two diagrams, which show ties between identified categories, were generated based on results. *Results:* External stresses during the first wave were: lack of information, lack of protective equipment, different attitudes towards the pandemic management. During the third wave, they were: lack of nurses and other medical personnel, overwhelming of the healthcare system, too much administrative work, and long working hours spent in protective gear. The stress-reducing factors revealed after the first wave were: solidarity and gratitude expressed by society. During the third wave, nurses noted greater self-confidence and pride, better interpersonal relationships. *Conclusion:* The effective management of stressors in the pandemic period can contribute to better healthcare. Therefore, we should pay more attention to describe of them in future.

Keywords: confidence, Covid-19 pandemic, feelings, mental health, nurse, protective factors, stress.

Introduction

Throughout the whole pandemic period, health professionals play key roles in effective disease management, whether in hospitals or community-based care (Ballard, 2020). In the early days of the pandemic, attention was focused mainly on obtaining information about the new disease, understanding the nature of the disease, and providing preventive measures, including personal protective equipment (Deressa et al., 2021; International Council of Nurses [ICN], 2020).

Nurses have long been the largest group of healthcare workers, playing a crucial role in the fight against the Covid-19 pandemic. In the Czech Republic, the number of general nurses and midwives in 2019 was 82,582 (in comparison, the number of doctors – excluding dentists – in the same year was 43,164) (Institute of Health Information and Statistics of the Czech Republic [IHIS CR], 2020). Nurses participate in raising public awareness, prevention, screening, monitoring, and direct care of Covid-19 patients (Nanthini & Jeganathan, 2021; Sharma et al., 2020). During the performance of their jobs, nurses are exposed to the potential risk of infection or transmission of the infection to their loved ones or patients (Deressa et al., 2021; Diogo & Lemos, 2020; Nanthini & Jeganathan, 2021; Sharma et al., 2020). The high risk of infection is confirmed by the statistics of the Czech Medical Chamber (CMC); as of 4 October 2020, the CMC recorded 1,021 Covid-19 infected doctors and 1,984 infected nurses; during one week in October, the number of infected nurses increased by 323 (IHIS CR, 2020; Kubek, 2020). This resulted in a critical shortage of healthcare workers in the Czech Republic and an overload for those who were still able to work.

Nurses must cope with a variety of stressors. The following are commonly mentioned stressors: high risk of exposure to infection, working for long periods of time in protective equipment, constant adaptation to changes in the work environment and in the work team, the health and social situation of patients, accumulated fatigue, lack of sleep, exhaustion, isolation from family, and emotionally demanding work (Diogo & Lemos, 2020). High public expectations and public pressure, new work

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tasks, high mortality, the nature of Covid-19 disease and its high infectivity, psychosocial stress, lack of personal protective equipment, high job demands, and lack of adequate psychological counselling (Alwani et. al., 2021; Arnetz et al., 2020; Cui et al., 2021; Moore et al., 2021; Nanthini & Jeganathan, 2021).

The increased levels of stress exposure were confirmed by a cross-sectional, correlational study by Alnazly et al. (2021). Their results (average total score on the Fear of Covid-19 scale was 23.64 [SD = 6.85]) clearly demonstrate an increased fear of the pandemic among members of the respondent group (healthcare workers from Amman, Jordan) – especially among registered nurses. The finding that 40% of respondents suffered from severe depression and 60% of respondents (n = 365) from severe anxiety was very significant. Maben and Bridges (2020) indicate that the main stressors are sudden changes in the nurse's work tasks, increased amount and intensity of work, frequent telephone inquiries answered while performing other tasks, moral and ethical demands, and lack of protective equipment. Nanthini and Jeganathan (2021) ranked the lack of information about Covid-19 disease, especially at the beginning of the pandemic, inconsistent approach to the pandemic at both the global and the community level, long working hours without the prospect of rest, and ostracization by family or neighbours as major stressors. In addition to the stressors already mentioned, Rose et al. (2021) included the absence of appropriate protective measures, staff shortages, and uncertainty about when the pandemic will be under control. All these stressors negatively affect the mental health of the nurse and lead to an increased risk of developing burnout syndrome (Hu et al., 2020; Talaee et al., 2022; Wu et al., 2020).

Jayadev et al. (2020) conducted a study regarding the perception of stress among 190 nurses working in Covid-19 units in India. They used a standardized PSS-10 scale (Perceived Stress Scale [Cohen et al., 1983]). In total, 108 nurses reported significantly elevated levels of perceived stress. Stress levels were negatively correlated with age, education, and amount of work experience. Kisa (2020) documented the increased vulnerability of nurses to burnout syndrome, particularly nurses who lack consistent information regarding Covid-19 disease and those who are forced to live in isolation due to the nature of their profession. Another significant factor contributing to the development of burnout syndrome stressed by Kisa (2020) was "moral injury", whereby the nurse was forced to decide which Covid-19 patients would receive care and which would not.

A nurse under a heavy workload does not have the opportunity to appropriately process, express, and cope with these experiences (Hu et al., 2020), which can negatively affect physical, mental, and social well-being (Talaee et al., 2022). The consequences of such unprocessed experiences can lead to maintaining emotional distance from patients; procrastination; mistakes; deterioration of personal relationships at work and outside of work; reduced work performance; increased frequency of conflicts; cigarette, alcohol, and drug abuse; and increased risk of suicide (Wu et al., 2020).

Since depression and anxiety often remain undiagnosed and are not usually reported by nurses, Chandra et al. (2020) examined the prevalence of depression and anxiety in nurses during the Covid-19 pandemic in Nepal using the Hamilton Anxiety Scale (HAM-A scale) and the General Anxiety Disorder Questionnaire (GAD questionnaire). In total, 43.6% of the nurses reported high levels of anxiety, and 20% reported medium levels of anxiety. Suicidal tendencies were reported by 11.1% of the nurses. Anxiety levels positively correlated with high nurse-to-patient ratios, fear of contagion, and social isolation. Kim et al. (2021) came to similar conclusions when measuring levels of stress, anxiety, and depression in nurses caring for Covid-19 patients in California. High levels of stress in their research negatively correlated with age, work experience, psychological support from family members, and spirituality; high levels of anxiety positively correlated with female gender and length of time working with Covid-19 patients; and high levels of depression significantly positively correlated with social isolation and quarantine. High levels of anxiety in nurses were also reported by Alwani et al. (2021), who found it in 92.3% of the nurses working in Covid-19 units in Pakistan; anxiety was strongly positively correlated with the unavailability of protective equipment, long working hours, and lack of psychological counselling.

The above-mentioned research shows that anxiety, stress, and depression are the most common stressors affecting nurses caring for Covid-19 patients. Other responses include anger, frustration, fear, and worry (Maben & Bridges, 2020), often stemming from the lack of psychological support. Nevertheless, Alnazly et al. (2021) stressed the impact of stress-reducing factors. In this context, they mention that healthcare workers who were able to take a few days off during the pandemic showed lower levels of depression, fear, anxiety, and stress.

In order for nurses to fully fulfil their role, it is important not only to understand the stressors they

face and the experiences they deal with but also to comprehend the factors and predictors that play a significant role in supporting and maintaining mental health (Urban & Urban, 2020).

Aim

The aim of the research was to ascertain the feelings of frontline nurses during the first and third waves of the Covid-19 pandemic.

Research objectives:
1) To describe the feelings experienced during the first and third waves of the pandemic.
2) To understand the factors that made the nurses' job more difficult during the first and third waves of the pandemic.
3) To understand the factors that facilitated the nurses' job during the first and third waves of the pandemic.

Methods

Design

Qualitative research using a phenomenological approach.

Sample

Informants were recruited using the purposive sampling technique. Eight general nurses, who had been directly exposed to Covid-19 as part of their job duties, participated in the investigation. Four ward nurses working in Kladno on Covid-19 units were approached immediately after the first wave of the Covid-19 pandemic (in May 2020), and the same nurses were subsequently approached again in June 2021 after the third wave of the Covid-19 pandemic. Four general nurses working in the Kladno hospital and in a nursing home in Kladno were approached in July 2021; these nurses commented on the third wave of the pandemic and, retrospectively, on the first wave of the pandemic.

Of the informants, five nurses were married, one unmarried, and two were divorced. Ages ranged from 30 to 59 years. One nurse had a university degree, one nurse had higher vocational education, and six nurses had secondary education. Six informants were employed in the hospital and two in a nursing home.

Data collection

The study used qualitative research and a phenomenological approach, which aimed to authentically describe certain "phenomena" in an unbiased and in-depth way and to subsequently analyse and interpret results (Hendl, 2016). We used unstructured in-depth interviews in which nurses were asked to talk about their experiences during

the first and third waves of the Covid-19 pandemic and to reflect on and evaluate these experiences. The interviews lasted from 1 hour and 24 minutes to 3 hours.

The requirement for participation was employment as a nurse who cared for Covid-19 patients during the first and third wave of the Covid-19 pandemic. Another essential requirement was consent to be interviewed for research purposes and consent with the audio recording of the interview.

Data analysis

The audio recording was subsequently transcribed and analysed using content analysis (coding, categorization, and defining themes). Based on the content analysis, the following categories were created: Negative and positive feelings during the first wave of the pandemic; Negative and positive feelings after the third wave of the pandemic; External causes of stress, Stress-reducing factors that facilitate the work of nurses.

The results of the content analysis from the first wave and the third wave of the pandemic are graphically presented in Charts 1 and 2.

Results

Feelings identified during the first wave of the Covid-19 pandemic

Primarily, feelings of fear and uncertainty were identified during the interviews. Nurses reported their fear of becoming infected, but also fear and concern regarding the future (*"How long will the pandemic last? I was unsure about how I would handle the whole situation; it was something new for me. I was scared that it might last a long time."*) and fear of infecting loved ones (*"What if we all get sick and it infects our family and patients?"*). One nurse working in the A & E department reported: *"I feared what was about to come. What if I infect my parents, and how will I keep them safe if I am positive?"* Another nurse working on the pulmonary unit stated: *"I was experiencing fear and uncertainty. I didn't know what the next day would bring; uncertainty was my daily routine. I waited anxiously for every piece of information."* However, there were also concerns about nurses not being able to care for COVID-19 patients. *"What if I don't know how to care for Covid-19 patients? What if someone dies here? Will I bring the disease home?"*

The two nurses working in the nursing home reported fear of infecting the elderly. *"All I could think about was how I could prevent the spread of the disease in the nursing home. I was afraid that I would*
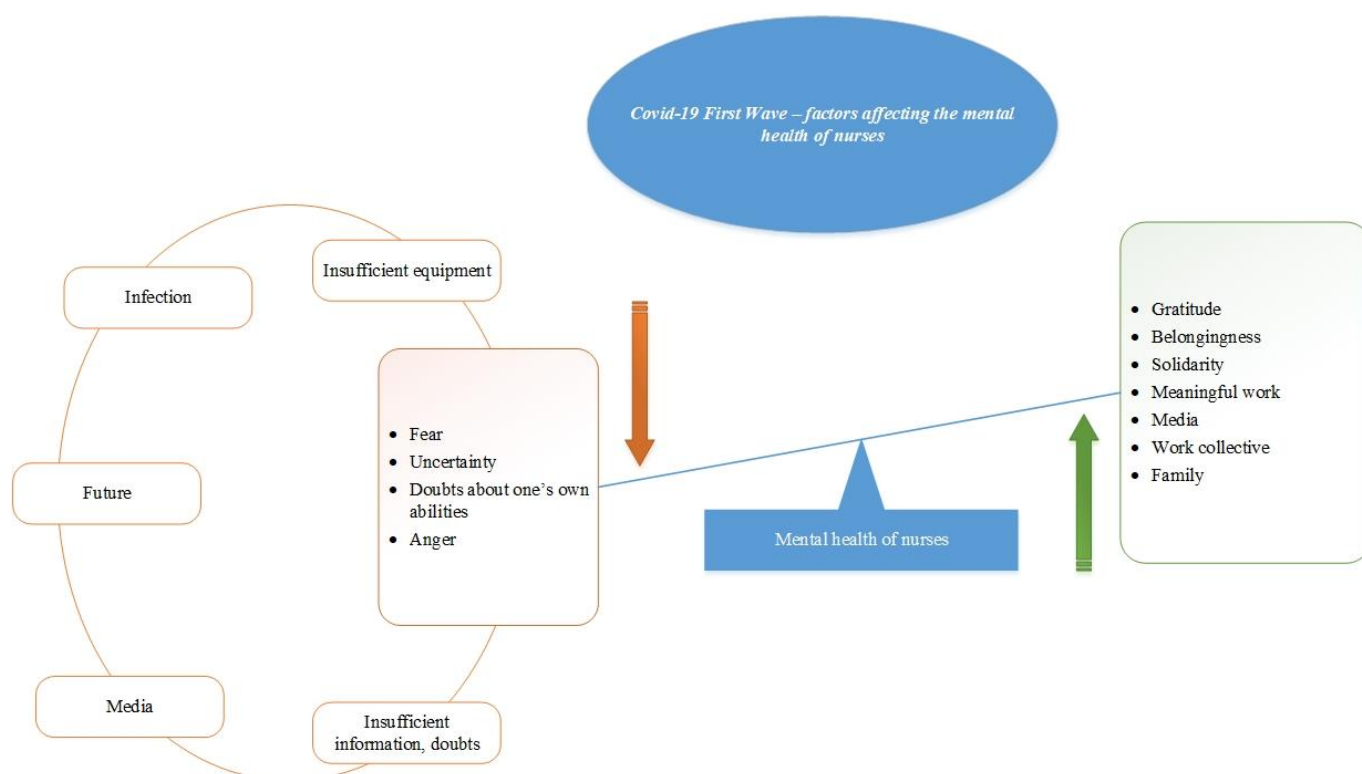
Diagram 1 Covid-19 First Wave – factors influencing the mental health of nurses
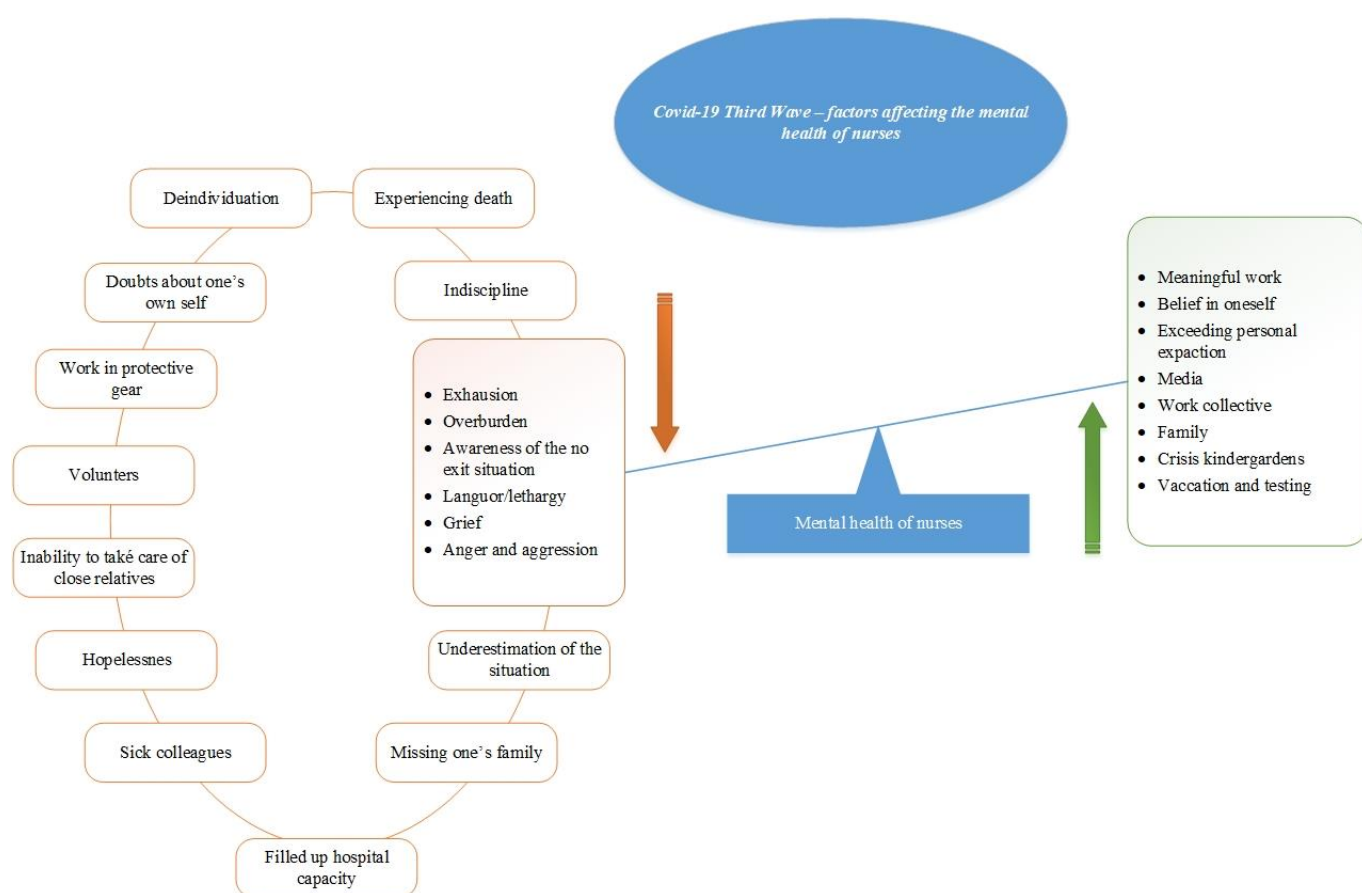

Diagram 2 Covid-19 Third Wave – factors influencing the mental health of nurses

not be able to dedicate myself to infected clients in isolation."

In addition to the above-mentioned feelings of fear and insecurity, which were identified among all eight nurses, we noted feelings of anger between two nurses, *"The anger was also caused by not getting tested enough." "I was angry that none of us knew what to do. We lacked information."*

In addition to the novelty of the pandemic situation, the lack of information was related to feelings of doubt and a reality that was too bad to believe: *"During the first wave, I still foolishly thought that the pandemic did not concern me." "When the news about the coronavirus was on TV, it seemed out of place, like it couldn't be true, like something from a movie."*

The feelings we identified in the interviews after the first wave of Covid-19 mainly reflect fear, concerns, and uncertainty, but also anger and confusion stemming from the lack of information, and finally, doubt and a reality that was too bad to believe.

Feelings identified after the third wave of the Covid-19 pandemic

During the third wave, nurses struggled predominantly with exhaustion, strain, and even overload, and this was observed both among nurses working in hospitals (*"I was overloaded, and I still am now; I still can't see the light at the end of the tunnel. I don't know how much longer I can take it." "I was totally exhausted every time I went home, I was completely incapable of any activity, and tomorrow the whole process would repeat again."*) and for nurses working in nursing homes (*"Our workload increased significantly when three nurses dropped out at once and two nurses had to provide care for 230 clients. Every morning I told myself I couldn't stand it." "Spring was the most difficult time for me. I thought that exhausting myself was not worth it. I thought I couldn't stand it."*).

Feelings of apathy and inability to experience emotions were also related to exhaustion, which we identified in two of the nurses: *"I don't even know what I'm experiencing anymore. I don't experience things because I'm like a robot." "Now I'm more apathetic and exhausted."*

Feelings of sadness and homesickness were also identified and often related to the overwhelming workload and the stress of patients dying: *"I was sad and missed my son, whom I had not seen for two months." "I missed my family, I had not seen my sick parents for six months, and I did not know if I would see them again." "I always felt sad when one of our*

clients got sick and then died; I still feel very sad for some of them."

Feelings of anger and resentment were also reflected by nurses in the third wave, but they offered different reasons compared to the first wave: *"I was angry that I couldn't take care of my parents." "I was so annoyed by the disobedience of some patients and by the underestimation of some people's situation that it made me aggressive, and I even felt like kicking them." "I was angry at nurses who stayed home suffering from COVID-19 while I had non-stop shifts instead of them." "I was annoyed by the careless way some of the nurses handled infectious material; sometimes, it drove me crazy."*

External causes of stress

The research shows that external causes of stress identified after the first wave were different from those identified after the third wave. In the first wave, nurses mainly mentioned the lack of protective equipment as a cause of stress: *"I was very worried about how we would protect ourselves if we ran out of protective equipment. Every day I saw shortages of protective equipment."* Furthermore, one nurse stressed the inconsistency in the approach to the pandemic by the nursing staff as a cause of the stress; three nurses mentioned the lack of testing for Covid-19 as a cause of stress: *"I could not protect myself enough because the people we were in contact with, in the operating theatre, were not tested." "The regional public health office applied strict criteria to COVID-19 testing of residents; however, often when people had major health problems, the regional public health office didn't give permission to test them, and we were afraid to admit these people and didn't know where to send them." "The waiting time for COVID-19 testing was terribly long."* Another cause of the stress identified in the first wave related to information in the media. *"I didn't know if everything on the TV news was true." "What if the media and the government are lying to us?" "At first, I thought COVID-19 was a media hoax." "Can the government handle the whole situation? Won't we end up like Italy?"*

The third wave was no longer a new situation for nurses, and therefore, the nurses, in their interviews, mentioned other causes of stress. Both nurses working in nursing homes report work overload stemming from non-nursing tasks as the worst external cause of stress. *"A very significant strain was administration, COVID-19 testing, paperwork, reporting to insurance companies, and reporting to regional public health office; therefore, we couldn't attend to the needs of clients and moreover, there was only a few of us." "When*

caregivers dropped out, I had to do my job, and I had to do their jobs as well. When the cleaners dropped out, we had to divide their work between us.” In the interviews after the third wave, all nurses indicated working in protective equipment as a significant source of external stress. *“Working in protective equipment is very demanding, strenuous, it is difficult to breathe, and one also sweats. The work takes a long time, you are hungry, you need to go to the toilet, and you don't because you can't imagine going through the whole dressing process again after having done what you needed to.”* One nurse mentioned the work of students or volunteers as a cause of stress: *“At first, you are upset when no one from the school notifies you that the students would come, and then, once they arrive, you have to spend a lot of time training them.”*

Another cause of stress was the quarantine and uncertainty stemming from the possible quarantine. A nurse working in a nursing home stated: *“I used to go to work every day with my bag packed, and I was afraid I would stay there and not see my son again. Subsequently, that really happened, and I had to stay in quarantine at work for a whole month. It was terrible despair that I wouldn't see him, and I didn't know how long it would last.”* A similar opinion was provided by a nurse working in the pulmonary ward: *“Every day I was afraid that the situation would get worse. What if the hospital decided to isolate us from our families as they did in nursing homes?”* A nurse working in the A & E says: *“Visits were not permitted, walking around was not permitted, everything was banned, contact between the staff was restricted. It was all very depressing.”*

Positive feelings

Positive feelings were also identified during the first and the third waves of the COVID-19 pandemic and from the answers regarding stress-reducing factors that made it easier for nurses to work during the pandemic; however, negative feelings still prevailed. In the first wave, four nurses expressed gratitude stemming from solidarity and a sense of belonging. *“I was grateful for the great level of support from the public and businesses; they brought us homemade textile masks and baked goodies to work.” “A lot of previously unknown people expressed their solidarity; it was a lovely feeling to be appreciated by someone you didn't even know.” “I am grateful to everyone who gave us small donations.”* Other positive feelings were related to the realization of one's own importance and the meaningfulness of one's work. These feelings were identified both after the first wave (*“In quarantine, I realized that I had a place in the nursing home and that I was*

important to the clients there”) and after the third wave (*“Someday I will say that I can be proud of myself for what I have done”*). After the third wave, the positive feelings were mostly related to having confidence in oneself and one's abilities: *“The pandemic taught me to believe in myself more.” “I learned to rely on my abilities and to trust myself.” “I found that I was able to do more than I had thought.”*

Factors facilitating the work of nurses during the pandemic

The topic regarding factors facilitating the work of nurses in both the first and the third waves of the Covid-19 pandemic stemmed from answers to the third question. These factors can be divided into several categories. In the first wave, it was mainly the updated information: *“The most helpful thing for me was the information that restrictions would be gradually eased.” “The information on TV also helped me in the beginning.” “I literally craved for every piece of information – from the radio on my way to work, on TV…”* Another category was interpersonal relations: *“We are a great team, we help each other, and we solve everything together.” “What helped me is that we form a good team.” “The head nurse let us know that we were important to her not only as colleagues but also as people with deeply held concerns.” “My parents helped me at home with anything I couldn't handle.” “Knowing that we were all in this together, trusting that people would be careful.”*

Stress-reducing factors related to interpersonal character also emerged in the third wave: *“What helped me was the fact that my parents could take care of my son.” “The head nurse tried to accommodate us; she gave us time off when she saw that we really could not go on.”* However, categories such as vaccinations and testing emerged, as well: *“Vaccinations. Hopefully, it makes sense, and the numbers will go down.” “Testing and vaccinations. It's kind of an insurance thing.”* A very practical category was state-established crisis nurseries and schools. *“The one thing I appreciated the most was the crisis school where I put my son so he didn't have to stay with my parents and I could be with him.” “The crisis nurseries were practical when no services were working anyway. I could fully concentrate on my work, and I knew my child was doing well.”*

Discussion

The content analysis of the in-depth interviews revealed that the feelings identified in nurses during the pandemic were predominantly negative, both

in the first and the third wave. The negative feelings mentioned in the first wave included mainly fear and uncertainty, fear of the future, and fear of infecting loved ones or patients / clients. The negative feelings identified in the nurses during the third wave period were exhaustion, fatigue, work overload, numbness to the situation, sadness, homesickness, helplessness, anger, and resentment. These results were consistent with several studies published worldwide (Alnazly et al., 2021; Maben & Bridges, 2020; Rose et al., 2021). The Covid-19 pandemic represents a new situation that has the potential to induce stress. Nurses were expected to provide professional care, and the nurses were the ones in closest contact with people who had been infected with Covid-19 (Arasli et al., 2020). The high workload, high expectations of patients (Carpenter et al., 2021), and lack of time and energy for psychological hygiene all represent a significant source of mental stress for nurses (Arasli et al., 2020; Nanthini & Jeganathan, 2021). Consequently, nurses experience a range of negative feelings that can lead to reduced quality of care for patients and clients, as well as high employee turnover, addictions to substances including nicotine and alcohol (Arasli et al., 2020), insomnia (Sampaio et al., 2021), and last but not least, suicidal ideation and attempts (Chandra et al., 2020; Hu et al., 2020; Talaee et al., 2022; Wu et al., 2020). In terms of preventing these negative consequences, it is important to pay attention to the mental health of nurses by allowing them to express their feelings and then working to address these feelings (Hu et al., 2020; Talaee et al., 2022; Wu et al., 2020).

However, some positive feelings were identified, often associated with solidarity expressed by the public toward health workers in the spring of 2020 during the first wave. These feelings include gratitude, hope, and awareness of one's importance and the meaningfulness of the work. The positive feelings identified in the third wave of the pandemic relate to confidence and pride stemming from the ability to learn new skills or from discovering one's own ability to cope with challenging situations. Even though the literature tends to focus on negative feelings during the pandemic, positive feelings play an important role not only at the individual level – for example, to prevent depression and anxiety (Urban & Urban, 2020) – but also at the professional level, because the ability to learn new skills contributes to the development of innovative patient care practices and more effective communication with patients during the pandemic (Carpenter et al., 2021).

In addition to experiencing positive feelings, external stress-reducing factors also play an important role in building positive coping strategies. These external stress-reducing factors included awareness, social support and solidarity after the first wave, social support, and hope, as well as testing and vaccination after the third wave – a factor that was unavailable during the first wave. Nurses also mentioned state-run crisis schools and nurseries as an external factor that facilitated their work. While these factors, considering their nature, fall into the category of social support, we consider them a special category because nurses emphasized them in their interviews. Stress-reducing factors play an important role in the support and maintenance of mental health, which was positively reflected in work engagement, productive behaviour towards patients, and overall quality of work performance and satisfaction, and promotes a positive atmosphere in the workplace (Alwani et al., 2021; Nanthini & Jeganathan, 2021; Urban & Urban, 2020).

We also focused on identifying the external factors that made it difficult for nurses to perform their job in the first wave, which included mainly: lack of medical protective equipment, the stress put on nurses stemming from wearing protective equipment during the whole shift, caring for their families, non-cooperation of state authorities, and unclear instructions on how to receive and test patients. These factors were similar to factors that made it difficult for nurses to perform their jobs in the third wave, such as working several hours in protective equipment and caring for families. However, other factors emerged due to the overloaded healthcare system; nurses had to take over for colleagues who had fallen ill with Covid-19 or had to go into quarantine. Nurses were also engaged in administrative work and took on tasks that were not in their primary job description. However, negative society-wide factors were also identified, such as the lack of Covid-19 management.

Although the aim of employing nursing students and volunteers was to reduce workloads, the nurses did not always appreciate the contributions of such students and volunteers, and the presence of students in the workspace was also perceived as a source of stress because teaching nursing skills is often time-consuming. All of the above-mentioned factors can contribute to the development of burnout syndrome, which can significantly interfere with the successful practice of the nursing profession (Diogo & Lemos, 2020; Maben & Bridges, 2020; Sharma et al., 2020).

Conclusion

During the Covid-19 pandemic, nurses showed great

heroism in terms of their work commitment and their willingness to expose themselves to a potentially deadly infection on a daily basis; they also were willing to put their needs on the back burner and put the needs of patients first. Nursing during the Covid-19 pandemic continues to represent a significant source of stress for nurses. Nurses face a wide range of difficulties and a variety of external and internal stressors that threatens their mental health and, consequently, undermines the quality of care they provide and the quality of the work they perform.

Our research highlights a range of internal stressors that, in the form of negative feelings, affected the mental health of nurses during the first wave (uncertainty, fear, and anxiety) and during the third wave (fatigue, sadness, helplessness, anger, and numbness). These emotions reflect the specifics of both the first and the third wave, where in the first wave, nurses mostly faced a lack of information, lack of protective equipment, and an inconsistent approach to the pandemic by regional the public health office, the state, and health facilities. In the third wave, by contrast, nurses faced mainly a shortage of health personnel, an overburdening of the health system, excessive paperwork, as well as working in protective equipment for long periods of time. It is also worth mentioning that the intention to ease workloads by calling students to help or employing volunteers was not always met with a positive response, with some nurses citing their additional educational duties as a source of stress. Positive feelings were also identified in the research. In the first wave, these feelings took the form of gratitude to the public and increased self-esteem; in the interviews, the nurses linked these feelings to expressions of solidarity and the high regard for healthcare professionals held by society and the public. In the third wave, positive feelings took the form of increased self-confidence and pride stemming from coping with challenging situations and from the ability to learn new tasks. The external stress-reducing factors contributing to the prevention of exhaustion and mental health recovery include healthy interpersonal relationships both in the family and in the workplace. Timely and up-to-date information, solidarity, and the establishment of crisis schools and nurseries were also examples.

Supporting good mental health during (but not only during) a pandemic requires attention to needs that are often neglected because of a lack of time. Moreover, nurses should be encouraged to express both their negative and positive feelings. Positive feelings can help nurses create positive coping strategies for dealing with the enormous workloads that can occur during a pandemic.

The results acquired clearly underscore the necessity to map out the kind of mental care currently offered to nurses. Areas of strengths and weaknesses identified in the process would consequently facilitate the improvement of the quality of mental healthcare, the improvement of the working environment, and a reduction in the exodus of workers from the healthcare field.

Ethical aspects and conflict of interest

This study does not contain any ethically controversial issues. In the course of the study, the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regards to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) was adhered to. The drafting of human subjects (respondents) into the research was done in line with the Helsinki declaration of 1975 and as revised in 2013. National ethical standards and regulations were also observed.

Respondents were informed beforehand about the aim of the study. The study was carried out anonymously. Further, the respondents were informed about the advantages and disadvantages of participating in the study. Participation in the study was voluntary. Respondents gave their consent verbally. The study proposal, just like the entire project under the grant, particularly its research phase, was scrutinized and approved by the ethical committee of the University of South Bohemia, Czech Republic (ethical approval was given 15. 6. 2020).

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Author contributions

Conceptualization (OS), interviews (OS), methodology (SB, ICh), original draft preparation (OS), review and editing (VH, SB, ICh), diagram preparation (VH). All authors have read and agreed to the published version of the manuscript.

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